SUBJECT INDEX

A

Absidia spp.
  nosocomial infection and, 527
Acetate
  formation of
    anaerobic protozoa and, 470-71
Acetobacterium woodii
  anaerobic fermentative degradation by, 301
Acetosyringone
  Agrobacterium vir gene expression and, 585
Acetyl coenzyme A
  oxidation of pyruvate to, 469-70
Acetylene
  nitrous oxide reduction and, 249
Achromobacter cycloclastes
  nitric oxide reductase of, 244-46
  nitrite reductase of, 238
Acinetobacter calcoaceticus
  nosocomial infections and, 457
  phosphotyrosine in, 106
Acinetobacter spp.
  pathogenicity of, 457-58
  phenol hydroxylase of, 272
  skin colonization by, 445
Acne
  Propionibacterium acnes and, 457
Acquired immunodeficiency syndrome (AIDS)
  animal models for, 610-11
  infection susceptibility and, 452
  lentiviruses and, 609-10
  vaccine for, 759
  viruses, 751-54
Actinobacillus spp.
  coaggregation of, 634
Actinobacillus actinomycetemcomitans
  periodontal disease and, 638
Actinomyces israelii
  coaggregation of, 631, 636
Actinomyces naeslundii
  adherence to teeth, 637
  coaggregation of, 631-34, 636, 641, 644
  fimbriae of, 643
Actinomyces odontolyticus
  coaggregation of, 631-34
Actinomyces parabifidus
  coaggregation of, 631
Actinomyces spp.
  fimbriae of, 642-43
Actinomyces viscosus
  adherence to teeth, 637
  coaggregation of, 628, 631-34, 636, 641, 644
  fimbriae of, 642-43
Adamowicz, Philippe, 757
Adenylate kinase
  anaerobic protozoa and, 478
Adhesins
  bacterial adherence to skin and, 450
  oral bacterial, 644
Aerobactin
  Shigella spp. and, 142-43
Aerobiosis
  anaerobic protozoa and, 474
Aeromonas formicans, 398
Aeromonas hydrophila, 396-98
  antimicrobial susceptibilities of, 413
  diarrheal disease and, 402-5
  endocarditis and, 406-7
  enterotoxins of, 410-12
  epidemiology of, 399-401
  extracellular enzymes of, 410
  eye infections and, 407
  immune response to, 409-10
  meningitis and, 405-6
  osteomyelitis and, 406
  prophylaxis and, 413
  septic arthritis and, 406
  skin infections and, 405
  urinary tract infections and, 407
Aeromonas liquefaciens, 398
  hemorrhagic septicemia and, 401-2
Aeromonas punctata, 398
  infections caused by, 408
Aeromonas salmonicida, 398
  furunculosis and, 401-2
Aeromonas sobria, 400
  diarrheal disease and, 403
  extracellular enzymes of, 410
  infections caused by, 408
Aeromonas spp., 395-413
  antimicrobial susceptibilities of, 413
  cultural characteristics of, 401
  enterotoxins of, 410-12
  extracellular enzymes of, 410
  immune response to, 409-10
  infections caused by, 401-2
    human, 402-9
  prophylaxis and, 413
Age
  normal flora of skin and, 447-48
Agrobacterium rhizogenes
  crown gall and, 575
  host range of, 422, 424
  Ri plasmid of
    vir region of, 585
Agrobacterium spp.
  chvA and *chvB* mutants of, 580-81
  colonization and attachment of, 576-82
  host range of, 593-96
  infection and transformation of plants by, 575-97
  plant cell receptor for, 578-79
  plant wounding and, 582-84
  pscA mutants of, 581-82
  vir gene of
    expression of, 585-87
  virulence mutants of, 582
Agrobacterium tumefaciens
  crown gall and, 422-24, 575
  host range of, 422
  site-specific attachment of, 578
  tumor induction by
    monocots and, 595-96
    T-DNA expression and, 591-93
    T-DNA transfer and, 584-91
Alcaligenes eutrophus
  cadmium resistance in, 723
  haloaromatic degradation and, 270
  phenol hydroxylase of, 272
Alcaligenes faecalis
  anaerobic growth of
    nitrous oxide-dependent, 249
  nitric oxide reductase of, 245
  nitrite reductase of, 238
Alcaligenes spp.
  nitrite reductases of, 238-40
Alcaligenes strain A7
  methanol-degrading, 282
Alcaligenes xylosoxidans subsp. *denitrificans*
  benzoate metabolism by, 296
Alcohol dehydrogenase
  ethanol formation in anaerobic protozoa and, 472

Aldehyde
  bioluminescence reaction and, 154
Aldehyde dehydrogenase
  Vibrio harveyi bioluminescence and, 167
Alfalfa mosaic virus, 659-62
  avirulence genes and, 431
  sharing of functional domains by, 675
Alkylating agents
  DNA repair pathways and, 548
Alphaviruses
  assembly of, 490
  capsid proteins of, 672
  recombination in, 674
  RNA viruses and, 659-64
Alternaria spp.
  phaeohyphomycosis and, 529
Alteromonas spp.
  luminescence systems of, 153
Amantadine
  adverse effects of, 37
  antiviral effects of, 37
Amino acids
  aromatic
    methanogenesis of, 305-6
  Bacillus spore germination and, 319-20
  phosphorylated, 105-6
  small, acid-soluble spore proteins and, 321-22
Aminoglycosides
  Aeromonas hydrophila and, 413
Amphotericin B
  candidiasis and, 536
  Fusarium spp. and, 529
  hepatosplenic candidiasis and, 534
  nosocomial aspergillosis and, 527
  Paecilomyces variotii and, 529
  pseudallescheriasis and, 529
  trichosporonosis and, 536
  zygomycosis and, 528
Ampicillin
  Aeromonas hydrophila and, 413
  Aeromonas meningitis and, 406
  Plesiomonas shigelloides and, 413
Amycolatopsis spp.
  transformation of, 569
α-Amylase
  Bacillus spp. and, 82-87
Anaerobic protozoa
  energy metabolism in, 465-82
    decarboxylation and, 469-72
    electron transfer and, 472-76
    evolution of, 479-82
    glycolysis and, 468-69
    hydrogenosomes and, 477-79
Anderson, Thomas, 750
Andrewes, C. H., 3
Anemia
  Colorado tick fever and, 53
Animal viruses
  assembly of, 489-510
Anthranilate
  metabolism of
    anaerobic, 297-98
Antibiotic resistance
  Aeromonas spp. and, 404
  Brevibacterium spp. and, 444
  Corynebacterium spp. and, 444
  gram-positive bacteria and, 570
  Plesiomonas shigelloides and, 413
  Pseudomonas aeruginosa and, 364
  Streptomyces griseofuscus and, 565-66
  Streptomyces lividans and, 565-66
Antibiotics
  Aeromonas hydrophila and, 413
  normal flora of skin and, 449
Antigens
  filariasis and, 702-10
Antimony resistance
  bacteria and, 718-21
Antirhinovirus drugs, 36-41
Aplastic anemia
  Aeromonas septicemia and, 408
Aquaspirillum putridiconchylium
  cell wall fragments of
    p2 symmetry of, 19
Aquaspirillum serpens
  cell wall fragments of
    hexagonal arrays of, 18
  polar membrane of, 26
  S-layer of, 19
  wall arrays in, 16
Arboviruses
  Colorado tick fever and, 50
Archaebacteria
  protein phosphorylation in, 101
Archezoa, 480
Arenaviruses, 667-69
  assembly of, 490
Ariklone
  antiviral effects of, 38
Aromatic compounds, 289-312
  anaerobic aromatic ring reduction in, 308-10
  anaerobic photometabolism of, 292-95
  hydroxylated
    fermentation of, 300-2
  metabolism by methanogenic consortia, 302-8
  metabolism by nitrate-reducing bacteria, 295-99
  metabolism by sulfate-reducing bacteria, 299-300
Aromatic hydrocarbons
  anaerobic degradation of, 308
  anaerobic hydroxylation of, 310-11
Arsenic resistance
  bacteria and, 718-21
Arthrobacter globiformis
  haloaromatic degradation and, 268
  phosphotyrosine in, 106
Arthrobacter spp.
  haloaromatic degradation and, 268-69
Asheshov, I. N., 8-10
Aspergilloma, 525
Aspergillosis
  clinical transmission of, 525-26
  environmental microbiology of, 519-21
  epidemiology of, 521-25
  mycology of, 519
  nosocomial, 519-27
  prevention and treatment of, 526-27
Aspergillus flavus
  nosocomial infection and, 519
Aspergillus fumigatus
  nosocomial infection and, 519
Aspergillus niger
  nosocomial infection and, 519
Aspergillus terreus
  nosocomial infection and, 519
Atanasiu, Pascu, 755
Athiorhodaceae
  benzoate metabolism by, 292-95
Atopic dermatitis
  Candida skin colonization and, 445
  Staphylococcus skin colonization and, 443
ATPase
  bacterial polar membranes and, 26
Auxin
  crown gall tumors and, 592-93

Avirulence genes
plant pathogens and, 429-33
Azide
nitrous oxide reduction and, 249
Azlocillin
Aeromonas hydrophila and, 413
Azospirillum brasilense
cyst formation by
high growth temperatures and, 26

B

Babesia rhodaini
complement system and, 220
Bacillus amyloliquefaciens, 76
α-amylase of, 85
Bacillus amyloliquefaciens BE 20/78
lichenase gene of, 82
Bacillus cereus
cell surface of, 14
small, acid-soluble spore protein genes of
cloning of, 323-26
small, acid-soluble spore proteins of, 321
Bacillus circulans
α-amylase of, 87
motile colonies of, 9
Bacillus coagulans
α-amylase of, 87
xynA and *xynB* genes of, 78
Bacillus laterosporus
eccentric spores of, 26
Bacillus licheniformis
α-amylase of, 85-86
nitrate reductase of, 234
molybdenum cofactor and, 233
sacQ gene product of, 76-77
Bacillus megaterium
cell surface of, 14
mutants of
spore protease activity in, 333-35
small, acid-soluble spore protein genes of
chromosomal locations of, 331
cloning of, 323-26
transcription of, 330
small, acid-soluble spore proteins of, 320-21
spore germination in
amino acid generation and, 319-20
proteolysis during, 320
Bacillus natto
prtR gene of, 77
Bacillus polymyxa
cell wall fragments of
tetragonal arrays of, 19
Bacillus pumilus IPO
xynA and *xynB* genes of, 78
Bacillus sphaericus
small, acid-soluble spore proteins of, 321
Bacillus spp.
carbohydrate metabolism in, 65-88
haloaromatic degradation and, 265
halogenated benzoates and, 297
small, acid-soluble spore protein genes of
chromosomal locations of, 331
cloning of, 323-26
small, acid-soluble spore proteins of, 319-36
amino acid sequences of, 323-26
characterization of, 320-22
degradative enzymes of, 333-35
function of, 331-33
localization of, 322-23
purification of, 320-22
synthesis regulation during sporulation, 326-31
Bacillus stearothermophilus
α-amylase of, 86-87
small, acid-soluble spore proteins of, 321
genes cloned for, 323-26
Bacillus subtilis
arabinose metabolism in, 67-68
cadmium resistance in, 723
fructose metabolism in, 70
β-glucanases of, 80-82
glucitol metabolism in, 70-71
gluconate metabolism in, 71-72
glycerol metabolism in, 66-67
histidine-containing phosphocarrier protein of, 68
mannitol metabolism in, 69-70
metal salt staining of, 25
mutants of
small, acid-soluble spore protein synthesis in, 326-28
phosphoprotein phosphatases of, 111
phosphotransferase system of, 68-69
protein kinases of, 109
protein phosphorylation in, 103
prtR gene of, 77
recE function in, 549
sacV gene of, 77
small, acid-soluble spore protein genes of
chromosomal locations of, 331
cloning of, 323-26
transcription of, 330
small, acid-soluble spore proteins of, 321
sucrose metabolism in, 72-77
xylan utilization in, 78-80
Bacillus subtilis Marburg
α-amylase of, 83-84
Bacillus subtilis natto
α-amylase of, 84
Bacillus subtilis PAP115
xynA and *xynB* genes of, 78
Bacillus thuringiensis
spore-associated crystals in, 26
Bacteremia
Acinetobacter, 458
Aeromonas, 408-9
Micrococcus luteus, 454
Staphylococcus, 455
Bacteria
16S rRNA of
oligonucleotide sequence of, 23
avirulence genes and, 431-33
bioluminescent, 151-72
bioluminescence reaction of, 153-55
fatty aldehyde biosynthesis in, 155-62
lux genes of, 162-65
regulation of, 165-71
cell protoplasts of
double-track unit membrane of, 16
haloaromatic-degrading
application of, 281-83
isolation of, 278-80
heavy metal resistances in, 717-38
nitrate-reducing
benzoate metabolism by, 295-97
nonphotosynthetic
nitrate reductases from, 233-36
nitrous oxide reductases of, 249-52
polar membranes of, 26
skin, 441-60
S-layers of, 19-21
sulfate-reducing
aromatic compound metabolism by, 299-300
taxonomy of, 21-25

See also Gram-negative bacteria; Gram-positive bacteria; Oral bacteria; Prokaryotes
Bacteriocins
bacterial invasion and, 453
Bacterionema spp.
coaggregation of, 635
Bacteroides fragilis
complement system and, 216
Bacteroides gingivalis
fimbriae of, 646
periodontal disease and, 638
Bacteroides intermedius
coaggregation of, 635
periodontal disease and, 638
Bacteroides loescheii
coaggregation of, 635-36
coaggregation-mediating adhesins of, 644
fimbriae-associated adhesins of, 644-45
Bacteroides spp.
coaggregation of, 634-35
fimbriae of, 644-46
Baculoviruses, 177-96
infectious forms of, 179-80
molecular biology of, 180-86
pesticide applications of, 188
structure and classification of, 178-79
transplacement plasmids for, 186-88
vectors and hosts of, 188-91
Baculovirus-produced proteins
biological activity of, 195
posttranslational modification of, 191-95
Bail, Otto, 748
Baldwin, Ernest, 4
Baltimore, David, 750
Barme, Michel, 756
Barre-Sinoussi, Francoise, 752
Barrett, A. M., 4
Barski, Georges, 756
Baumeister, W., 20
Beijerinck, Martinus, 746-47
Benzene
anaerobic degradation of, 308
Benzoates
chlorinated
biodegradation of, 265-67
halogenated
Bacillus spp. and, 297
metabolism of
anaerobic, 292-95
methanogenic, 303-4
nitrate-reducing bacteria and, 295-97
Berrill, N. J., 6
Bertani, G., 10, 12
Bioluminescence reaction, 153-55
fatty aldehyde biosynthesis and, 156-62
Bipolaris spp.
phaeohyphomycosis and, 529
Birch-Anderson, Aksel, 14-15, 26
Birnaviruses, 670
Black beetle virus
capsid proteins of, 672
Blindness
filariasis and, 686
Bluetongue virus VP2 genes
baculovirus expression vectors and, 191-92
Bodo caudatis
kinetoplast DNA of, 340
Bordet, Jules, 748
Borrel, Amédée, 746-47
Bovine leukemia virus, 608
Bradyrhizobium japonicum nod inducers in
isoflavones and, 425
Breed, R. S., 21
Brenner, Sidney, 749
Brevibacterium spp.
skin colonization by, 444
Brome mosaic virus, 659-62
recombination in, 673
sharing of functional domains by, 675
Bromoviruses, 659
Bronnert, Christian, 756
Brugia malayi
lymphatic filariasis and, 686
Brugia spp.
larvae of
immunity to, 694-99
Brugia timori
lymphatic filariasis and, 686
Brun, Francoise, 752, 752
Buchanan, R. E., 22
Buck, R. C., 14
Buckmire, Francis, 19
Bunyaviruses, 667-68, 751
assembly of, 490, 494-96
Burley, Stephen, 20
Burton, A. C., 7
Butyrate
formation of
anaerobic protozoa and, 470-71

C

Cadmium resistance
bacteria and, 723-25
Caliciviruses, 664-65
California encephalitis, 56
Calmette, Albert, 754
Campbell, L. Leon, 27
Campylobacter fetus
complement system and, 215, 217
Campylobacter jejuni
polar membrane of, 26
Candida albicans
candidiasis and, 459
nosocomial, 530-31
inability to adhere to skin, 450
peritoneal dialysis and, 535
skin colonization by, 445, 454
vascular catheter infection and, 533
Candida balanitis
Candida infection and, 459
Candida guillermondi
polyenes and, 531
Candida krusei
granulocytopenia and, 531
Candida lusitaniae
polyenes and, 531
Candida parapsilosis, 459
nosocomial endophthalmitis and, 536
peritoneal dialysis and, 535
vascular catheter infection and, 531
Candida spp.
epiglottitis and, 535
hematogenous endophthalmitis and, 533-34
pathogenicity of, 459
peritonitis and, 535
skin colonization by, 445
ultraviolet light and, 449
Candida tropicalis, 459
granulocytopenia and, 531
peritoneal dialysis and, 535
Candidemia, 531-33
Candidiasis
Candida albicans and, 459
environmental microbiology of, 530-31
estrogen therapy and, 449
hepatosplenic, 534
mucocutaneous
infection susceptibility and, 452
mycology of, 530
nosocomial, 535-36
prevention and treatment of, 536
Capnocytophaga gingivalis
coaggregation of, 635-36
periodontal disease and, 638
Capnocytophaga ochracea
coaggregation of, 635-36
Capnocytophaga spp.
coaggregation of, 634
outer membrane and, 646
Capnocytophaga sputigena
coaggregation of, 635

Carbenicillin
Aeromonas hydrophila and, 413
Carbohydrate
bacterial coaggregation and, 647-48
Carbohydrate metabolism
Bacillus spp. and, 65-88
Carbomycin resistance genes
Streptomyces thermotolerans and, 570
Carbon monoxide
nitrous oxide reduction and, 249
Carboxymethyl cellulases
Bacillus spp. and, 80-82
Carbuncles
Staphylococcus aureus and, 455
Cardiac valves
prosthetic
Candida infection of, 533
Carnation mottle virus, 659-62
Carroll, James, 747
Catalase
microfilarial, 704
Trichomonas foetus and, 473
Catechol
methanogenic conversion of, 304-5
Cateigne, Genevieve, 757
Cauliflower mosaic virus
avirulence genes and, 430-31
Cefazolin
Aeromonas hydrophila and, 413
Cefomandole
Aeromonas hydrophila and, 413
Cefotaxime
Aeromonas hydrophila and, 413
Cefuroxime
Aeromonas hydrophila and, 413
Cellular immunity
epidermis and, 452
Central nervous system
respiratory infections and, 42-43
Cephalosporins
Aeromonas hydrophila and, 413
Cephalothin
Aeromonas hydrophila and, 413
Chalcone
rhinovirus colds and, 40
Chamberland, Charles, 746
Chermann, Jean-Claude, 752
Chloramphenicol
Aeromonas hydrophila and, 413
Aeromonas meningitis and, 406
Colorado tick fever and, 54
Streptomyces fradiae and, 555
Chlorhexidine soap
Staphylococcus aureus infection and, 448
Chlorinated benzoates
biodegradation of, 265-67
3-Chlorobenzoate
microbial degradation of, 266-67, 281
Chlorocatechols
microbial dehalogenation and, 272-78
Chlorpromazine
Aeromonas enterotoxin and, 411
Cholera toxin
Aeromonas enterotoxin and, 411
Chromate resistance
bacteria and, 722-23
Chromatium vinosum
nitrogenase activity in
protein phosphorylation and, 116
Cirrhosis
Aeromonas septicemia and, 408-9
Climate
normal flora of skin and, 446
Clostridium barkeri
nicotinate fermentation by, 310
Clostridium bifermentans
small, acid-soluble spore proteins of, 321
Clostridium perfringens
enterotoxins of, 411
small, acid-soluble spore proteins of, 321
genes cloned for, 325
Clostridium sphenoides
citrate lyase ligase of
protein phosphorylation and, 116
Clostridium spp.
spore germination in
amino acid generation and, 319-20
Clostridium tetanomorphum
phenol production in, 306
Clostridium thermocellum
celB gene of, 81
Clostridium thermohydrosulfuricum
phosphoprotein phosphatases of, 111
phosphotyrosine in, 106
protein kinases of, 109
inhibitors of, 110
Coaggregation
bacterial, 627-49
assay procedures for, 629-30
factors affecting, 630-31
primary colonizers and, 631-34
principles of, 648
surface components mediating, 642-48
Cobbett, Louis, 5
Coccidioides immitis
latent infection due to
reactivation of, 538
Coccidioidomycosis
latent
reactivation of, 538
Colistin
Aeromonas hydrophila and, 413
Colletotrichum gloeosporioides
cutinase of, 428
Collip, J. B., 8-11
Colorado tick fever, 49-61
epidemiology of, 55-56
geographic distribution of, 56-57
infection in humans, 52-54
laboratory diagnosis of, 54-55
mammalian hosts for, 57-59
tick vectors for, 59-60
virus causing, 50-52
Comedogenesis
Propionibacterium acnes and, 457
Cometabolism, 264
xenobiotics and, 281
Comfort, Alec, 5
Common cold, 35-46
antirhinovirus drugs and, 36-41
hot air and, 43-46
pathogenesis of, 41-43
Comoviruses, 664-65
amino acid sequence homology in, 671
Complement evasion, 201-21
Complement system, 202-7
alternative pathway activation, 205-6
C1 activation and control, 203
C3 chemistry, 203-5
C3 receptors, 206
C5b-9 and poly C9 formation, 206-7
control proteins, 207
lipopolysaccharide and, 208-9
Congo red binding ability
Shigella spp. and, 143-44
Conjunctivitis
Aeromonas spp. and, 407

Copper nitrite reductases, 238-40
Copper resistance
  bacteria and, 735-36
Coronaviruses, 670-71
  antibodies to
    enzyme-linked immunosorbent assay and, 41
  assembly of, 490, 494-96
  common cold and, 35-36
  recombination in, 673
Corticosteroids
  normal flora of skin and, 449
Corynebacterium fascians
  Agrobacterium tumefaciens tumor induction and, 578
Corynebacterium lipophilicus
  skin colonization by, 444
Corynebacterium minutissimum
  erythrasma and, 456
  skin colonization by, 444
Corynebacterium spp.
  neonates and, 447-48
  pathogenicity of, 455-57
  skin colonization by, 443-44
Corynebacterium tenuis
  trichomycosis and, 456
Costerton, J. W., 15
Coulton, James, 20
Cowan, S. T., 22
Cowpea mosaic virus
  sharing of functional domains by, 675
Cresols
  anaerobic degradation of, 298-99
Crithidia fasciculata
  kinetoplast DNA network
    maxicircles of
      point mutations in, 348
      replication of, 353
    minicircles of, 341-43
      replication of, 349-51
  topoisomerases of, 353-54
Crithidia spp.
  kinetoplast DNA of, 339
  kinetoplast network structure in, 340
Crown gall
  Agrobacterium rhizogenes and, 575
  Agrobacterium tumefaciens and, 422-24, 575
Cryptococcus neoformans
  latent infection due to reactivation of, 538
Cucumber mosaic virus, 659-62
Curvularia spp.
  phaeohyphomycosis and, 529
Cutinases, 427-28
Cyanide
  nitrous oxide reduction and, 249
Cyanobacteria
  outer membrane of
    phospholipids in, 361
  photosynthesis by
    protein phosphorylation and, 116
  protein phosphorylation in, 101
  thylakoid membranes in, 18
Cyclic AMP
  prokaryotic protein phosphorylation and, 110-11
Cyclic GMP
  prokaryotic protein phosphorylation and, 110-11
Cypoviruses, 669
Cysteine
  small, acid-soluble spore proteins and, 322
Cytochalasin D
  Shigella entry into cells and, 136
Cytochromes
  anaerobic protozoa and, 473
Cytokinin
  crown gall tumors and, 592-93
Cytomegaloviruses, 751
Cytoplasmic membrane
  bacterial membranes and, 17-18

D

Dahlgren, Ulric, 4
Darnell, James, 750
Dasytricha ruminantium
  acetate formation in, 471
  glycolysis in, 469
  hydrogenosomes of, 477
  hydrogen production in, 474
  pyruvate:ferredoxin oxidoreductase of, 470
  respiratory system of, 475
Day, Robert A., 27
Dean, H. R., 2-4
Decarboxylation
  energy metabolism in anaerobic protozoa and, 469-72
Dehalogenation
  microbial, 263-83
Deinobacter grandis, 24
Deinococcus radiodurans, 16
  cell wall fragments of
    hexagonal arrays of, 18
Deinococcus spp.
  polar lipid profile of, 24
Delbruck, Max, 748
De Maeyer, Edward, 751
De Maeyer, Jacqueline, 751
Dematiaceous hyphomycetes, 529-30
Demethylmacrocin
  Streptomyces fradiae mutants and, 563
Demethylmacrocin *O*-methyltransferase
  Streptomyces fradiae and, 562
Demycinosyltylosin
  Streptomyces fradiae mutants and, 563
Denitrification, 231-53
  nitrate reductases and, 232-37
  nitric oxide reductases and, 243-46
  nitrite reductases and, 237-42
  nitrous oxide reductases and, 249-53
  N-N bond formation and, 246-49
Dental plaque
  development of
    models for, 637-41
  ecology of, 636-42
20-Deoxy-20-dihydrodemycinosyltylosin
  Streptomyces fradiae mutants and, 563
23-Deoxydemycinosyltylosin
  Streptomyces fradiae mutants and, 563
Dermacentor albipictus
  Colorado tick fever and, 59
Dermacentor andersoni
  Colorado tick fever and, 50, 56-59
Dermacentor occidentalis
  Colorado tick fever and, 59
Dermacentor parumapertus
  Colorado tick fever and, 59
Dermacentor variabilis
  Colorado tick fever and, 57, 59
Dermatitis
  Candida skin colonization and, 445
  Staphylococcus skin colonization and, 443, 451
Dermatophytes
  bacterial invasion and, 453
Dermatophytosis
  nosocomial, 537
Dermatophytosis complex, 456-57
Desmycosin
  Streptomyces fradiae mutants and, 563
Desrosiers, Ronald, 753
Desulfobacterium indolicum
  indol oxidation by, 300

Desulfobacterium phenolicum
phenol oxidation by, 300
Desulfotomaculum sapomandens
aromatic compound metabolism by, 300
Desulfovibrio spp.
haloaromatic degradation and, 266
Detergents
normal flora of skin and, 448-49
Diabetes mellitus
Candida skin colonization and, 445
erythrasma and, 456
Staphylococcus skin colonization and, 443
2,4-Diamino-6,7-diisopropylteridine
Aeromonas spp. and, 396
Diarrhea
Aeromonas-associated, 400, 402-4
shigellosis and, 128
Diastase
Aeromonas spp. and, 410
Dichloroflavan
rhinovirus colds and, 39-40
Diethylcarbamazine
filariasis and, 691
Dihydroxyacetone phosphate
glycerol metabolism in *Bacillus subtilis* and, 66
Dirofilaria spp.
enzymes of, 704
Disaccharides
catabolism in *Bacillus subtilis*, 66-77
DNA
baculoviral, 178-79
kinetoplast
properties of, 340-44
replication of, 344-54
DNA repair
alkylating agents and, 548
Streptomyces fradiae and, 549-50
DNase
Aeromonas spp. and, 410
DNA synthesis
protein phosphorylation and, 115
Douglas, Howard, 11
Downie, A. W., 4-5
Doxycycline
traveler's diarrhea and, 413
d'Herelle, Felix, 747-48
Drosophila Kruppel gene product
baculovirus expression vectors and, 191-92
Drug abuse
staphylococcal skin colonization and, 443
Dubos, Rene, 10
Duclaux, Emile, 758
Dujarric de la Rivière, Rene, 757
Dysentery
Shiga toxin and, 139
shigellosis and, 128

E

Eastern equine encephalitis virus
recombination in, 674
Eastern equine encephalomyelitis, 56
Echovirus 12
rhodanine and, 37
Ecthyma gangrenosum
Aeromonas hydrophila and, 405
Aeromonas septicemia and, 409
Eikenella corrodens
periodontal disease and, 638
Elastase
Aeromonas spp. and, 410
microfilarial, 704-5
Elder, R. H., 9
Electron microscopy
bacterial cytology and, 13-14, 18
Elephantiasis, 691
Encephalitis
Colorado tick fever and, 53
western equine encephalitis virus and, 674
Enders, John, 747
Endocarditis
Acinetobacter spp. and, 458
Staphylococcus spp. and, 455
Endophthalmitis
Aeromonas spp. and, 407
Candida spp. and, 533-34, 536
Endoplasmic reticulum
virus assembly at, 491-94
virus maturation at, 494-96
Energy metabolism
anaerobic protozoa and, 465-82
Entamoeba histolytica
acetate formation in, 470-71
complement system and, 218-19
ethanol formation in, 472
ferredoxins of, 472
glycolysis in, 468
heme iron and, 473
hydrogen production in, 474
pyruvate:ferredoxin oxidoreductase of, 470, 473
respiratory system of, 475
Entamoeba invadens
pyruvate:ferredoxin oxidoreductase of, 470
Entamoeba spp.
inorganic pyrophosphate and, 480-81
Enterobacter cloacae
fermentative degradation by, 302
porins of
PhoE, 382
Enterobacter spp.
folliculitis and, 458
Enterocolitis
Aeromonas spp. and, 400
Enterotoxins
Aeromonas, 410-12
Enteroviruses
compounds active against, 37-38
Entner-Doudoroff pathway
Bacillus subtilis and, 71
Enviroxime
rhinovirus colds and, 39
Enzyme-linked immunosorbent assay (ELISA)
coronavirus antibodies and, 41
Epidermis
cellular immunity in, 452
Epiglottitis
Candida spp. and, 535
Epithelial cells
Shigella interactions with, 130-36
virus assembly in, 506-9
Erosio interdigitalis blastomycetica
Candida infection and, 459
Erwinia spp.
pectate lyases of, 428
Erwinia stewartii
pathogenicity genes of, 428-29
Erythrasma
Corynebacterium minutissimum and, 456
Erythrocytes
Colorado tick fever virus and, 53-54
Erythromycin
staphylococci and, 443
Streptomyces lividans and, 565-66
Escherichia coli
adhesion fimbriae of, 644
Agrobacterium tumefaciens tumor induction and, 578
arginine-ornithine periplasmic transport protein of
protein phosphorylation and, 116

ATPase of, 26
cell wall of
peptidoglycan layer in, 17
copper resistance in, 735-36
dnaK protein of, 101-3
DNA repair systems of, 550
doxycycline-resistant, 413
enteroinvasive, 127
enzyme I of
gene coding for, 68-69
folliculitis and, 458
β-glucanase gene expression in, 80
glutamine synthetase synthesis in
protein phosphorylation and, 116
heavy metal resistance in, 718-19
isocitrate dehydrogenase of
identification of, 101
phosphorylation and, 113
phosphorylation sites of, 106-7
lysogenic strains of, 748
nitrate reductase of, 234-35
molybdenum cofactor and, 233
outer membrane of
LamB-containing, 374-79
phosphatidylethanolamine in, 361
porin pores in, 369
proteins in, 362
phage T2 infection of, 10
phage T7 infection of
protein phosphorylation and, 115
phosphoproteins of, 100-1
phosphorylated amino acids of, 105-6
porins of, 363-65
diffusion, 381
exclusion molecular weight of, 368
PhoE, 382-83
protein HPr of
amino acid sequences of, 107
protein kinases of, 109
recA function in, 549-50
Tsx protein of, 379-80
virC and *virD* loci in, 589
Escherichia coli phenologenes
phenol production in, 306
Estrogen therapy
candidiasis and, 449
Ethanol
formation of
anaerobic protozoa and, 472
Ethyl methanesulfonate
Streptomyces fradiae mutagenesis and, 549
Eubacteria
denitrification in, 231-32
protein phosphorylation in, 101
rRNA groupings of
interpretation of, 23
Eubacterium brachy
periodontal disease and, 638
Eubacterium nodatum
periodontal disease and, 638
Eubacterium oxidoreducens
fermentative degradation by, 302
Eubacterium spp.
coaggregation of, 635
Evans, Charles, 10
Exserohilum spp.
phaeohyphomycosis and, 529
Eye infections
Aeromonas spp. and, 407

F

Fatty acid reductase complex
Photobacterium phosphoreum and, 160
Fatty acid reductase polypeptides
bioluminescent bacteria and, 160-62
Fatty acids
bioluminescence reaction and, 156-62
Faulds, L., 5
Feline leukemia virus, 610
Ferredoxins
anaerobic protozoa and, 472
Ferulate
fermentative degradation of, 302
methanogenesis of, 306
Fever
viral infection and, 750
Fibronectin
bacterial adhesins and, 450
Fijiviruses, 669
Filariasis, 685-710
biology of, 686
immunity to
animal, 691-701
human, 687-91
protective antigens and, 702-10
Fimbriae
oral bacterial, 642-46
Fitz-James, P. C., 13, 15, 17, 25
Flavins
anaerobic protozoa and, 473
bioluminescence reaction and, 154
Flaviviruses, 670-71
amino acid sequence homology in, 671
Flavobacterium spp.
haloaromatic degradation and, 269
nitric oxide reductase of, 243
Flavones
nodABC gene expression and, 425
Flucytosine
nosocomial aspergillosis and, 527
Fluoroacetate
antiviral effects of, 36
Folliculitis
gram-negative, 458
Pityrosporum spp. and, 458-59
Staphylococcus aureus and, 455
Foot-and-mouth disease virus, 746
drift of, 677
Fosfomycin
Bacillus subtilis mutants and, 67
Frosch, Paul, 746
Fructose
metabolism in *Bacillus subtilis*, 70
Fuenzalida, E., 754
Fungal infections
nosocomial, 517-39
Fungi
avirulence genes and, 431
Furuncles
Staphylococcus aureus and, 455
Furunculosis
Aeromonas salmonicida and, 401-2
Fusarium spp.
nosocomial infection and, 529
peritoneal dialysis and, 535
Fusobacterium nucleatum
coaggregation of, 635, 644, 646-47
periodontal disease and, 638
Fusobacterium spp.
coaggregation of, 634
Fyfe, W. S., 25

G

β-Galactosidase
genes for
baculovirus expression vectors and, 191-92

Shigella virulence and, 131-32
Gallate
fermentative degradation of, 302
Gallo, Robert, 752
Gamet, Andre, 754
Gastroenteritis
Aeromonas spp. and, 400, 402, 408
Gastrointestinal infections
Aeromonas spp. and, 402-5
Gentamicin
Aeromonas hydrophila and, 407, 413
Aeromonas meningitis and, 406
Plesiomonas shigelloides and, 413
Giardia lamblia
acetate formation in, 471
ethanol formation in, 472
ferredoxins of, 472
heme iron and, 473
pyruvate:ferredoxin oxidoreductase of, 470, 473
respiratory system of, 475
Gibbons, N. E., 22, 26
Gillen, D. H., 10
Gingivitis, 637-38
Glaeser, Robert, 20
β-Glucanases
Bacillus subtilis and, 80-82
Glucitol
metabolism in *Bacillus subtilis*, 70-71
Gluconate
metabolism in *Bacillus subtilis*, 71-72
Glutathione peroxidase
microfilarial, 704
Glutathione reductase
bacterial mercury resistance and, 729
Glycerol
metabolism in *Bacillus subtilis*, 67-68
Glycolysis
energy metabolism in anaerobic protozoa and, 468-69
Glycosylation
baculovirus-produced proteins and, 193
Glyoxylate cycle
protein phosphorylation and, 113
Golgi apparatus
virus maturation at, 494-96
Gordon, Mervyn, 2
Graham-Smith, G. S., 5
Gram-negative bacteria
mercury resistance in, 726-29
outer membrane of
structure and composition of, 360-65
porin pores of
reconstitution of, 367-72
structure of, 381-86
porins of
functions of, 365-66, 372-81
isolation and purification of, 366-67
Gram-negative rods
pathogenicity of, 457-58
Gram-positive bacteria
antibiotic resistance in, 570
cadmium resistance in, 723
mercury resistance in, 729-33
Granulocytopenia
Candida krusei and, 531
Candida tropicalis and, 531
nosocomial aspergillosis and, 525-26
pulmonary zygomycosis and, 528
trichosporonosis and, 536
Gratia, André, 748
Greaves, R. I. N., 5
Green monkeys
simian immunodeficiency viruses and, 613-14, 618-19
Griseofulvin
Trichophyton rubrum and, 537
Gros, François, 749
Guanidine
enterovirus replication and, 37
Gunsalus, I. C., 15
Guy, Bruno, 753
Guyader, Mireille, 753

H

Haemaphysalis leporispalustris
Colorado tick fever and, 59
Haemophilus influenzae
complement system and, 210-11
porins of, 363
exclusion molecular weight of, 368
Haemophilus spp.
adherence to teeth, 637
coaggregation of, 635
Hall, G. E., 7-9
Haloaromatics
biodegradation of, 263-83
mechanisms of, 264-78
Halobacterium halobium
photosynthesis by
protein phosphorylation and, 115-16
Hannay, C. L., 25
Hannoun, Claude, 757
Hantaviruses, 668
Heagy, Fred, 10
HeLa cells
Shigella entry into, 136
Helminthosporium spp.
host-selective toxins of, 429
Hemangioma
Aeromonas septicemia and, 408
Hematogenous *Candida* endophthalmitis, 533-34
Heme iron
anaerobic protozoa and, 473
Hemin
absorption of
Congo red binding and, 144
Hemodialysis
staphylococcal skin colonization and, 443
Hemoglobinopathy
Aeromonas septicemia and, 408
Hemolysin
Aeromonas hydrophila and, 410
Hemolytic uremic syndrome
Shiga toxin and, 139
Hemorrhagic septicemia
Aeromonas liquefaciens and, 401-2
Hepatitis A virus, 751
Hepatitis B
vaccine for, 757-58
Hepatitis B virus, 751
Hepatitis B virus surface antigen
genes for
baculovirus expression vectors and, 191-92
Hepatosplenic candidiasis, 534
Herellea spp.
skin colonization by, 445
Herpesviruses
assembly of
inner nuclear membranes and, 504-6
Herpetomonas ingenoplastis
kinetoplast DNA of, 340
Hidradenitis suppurativa
Staphylococcus aureus and, 455
Hillier, James, 14
Histamine
common cold and, 42
Histoplasma capsulatum
latent infection due to
reactivation of, 538
Histoplasmosis
latent
reactivation of, 538
Horaud, Florian, 756

Hormones
normal flora of skin and, 449
Horne, R., 750
Hospitalization
normal flora of skin and, 447
Hovanessian, Ara, 751
Human immunodeficiency virus proteins
genes for
baculovirus expression vectors and, 191-92
Human T-cell leukemia virus type I, 608
Human T-cell leukemia virus type I transactivator protein
genes for
baculovirus expression vectors and, 191-92
Human T-cell leukemia virus type II, 608
Human T-lymphotrophic virus, 752-53
Hyaluronidase
detection of, 9
Hydrocarbons
aromatic
anaerobic degradation of, 308
anaerobic hydroxylation of, 310-11
Hydrogenases
anaerobic protozoa and, 473-74
Hydrogenosomes
anaerobic protozoa and, 473, 477-79
pyruvate metabolism and, 478
Hydroxyapatite
bacterial adherence and, 639-40
p-Hydroxybenzoic acid
Agrobacterium vir gene expression and, 585
Hydroxybenzyl benzimidazole (HBB)
enterovirus replication and, 37
Hydroxylamine
Streptomyces fradiae mutagenesis and, 549
Hygromycin B
Streptomyces fradiae and, 555
Hyperbaric oxygen
zygomycosis and, 528
Hyperhidrosis
corynebacterial skin colonization and, 444

I

ICI 130685
antiviral effects of, 37
IgE
common cold and, 42
Ilarviruses, 659
Imidazoles
pseudallescheriasis and, 529
Immune system
bacterial invasion and, 452
Colorado tick fever and, 54
filariasis and, 687-701
rhinoviruses and, 41-43
Immunodeficiency viruses
simian, 607-22
animal studies of, 620-21
isolation and properties of, 612-15
nucleotide sequences of, 615-17
origins of, 622
pathogensis of, 622
prevalence and diversity of, 617-19
treatment and prevention of, 622
Immunoprophylaxis
filariasis and, 690-91
Immunosuppression
Candida skin colonization and, 445
Impetigo
Staphylococcus aureus and, 455
Influenza
vaccine for, 757
Influenza A viruses
amantadine and, 37
Influenza hemagglutinin proteins
genes for
baculovirus expression vectors and, 191-92
Influenza viruses
assembly of
plasma membrane and, 497-99
drift of, 677
negative-stranded RNA of, 667-68
Influenza virus polymerase
genes for
baculovirus expression vectors and, 191-92
Inorganic pyrophosphate
Entamoeba spp. and, 480-81
Interferon
antiviral effects of, 37
baculovirus vectors and, 195
virus replication and, 751
α-Interferon
genes for
baculovirus expression vectors and, 191-92
respiratory virus infection and, 42
β-Interferon
genes for
baculovirus expression vectors and, 191-92
γ-Interferon
filariasis and, 688
Interleukin
baculovirus vectors and, 195
Interleukin 1
common cold and, 42
serum amyloid A synthesis and, 42
Interleukin 2
genes for
baculovirus expression vectors and, 191-92
onchocerciasis and, 687
Interleukin 3
genes for
baculovirus expression vectors and, 191-92
Intertrigo
Candida infection and, 459
Isocitrate dehydrogenase
Escherichia coli
identification of, 101
phosphorylation by, 113
sites of, 106-7
Isocitrate dehydrogenase kinase/phosphatase
prokaryotic, 112
Isoflavones
Bradyrhizobium japonicum and, 425
Isoleucine
tylactone biosynthesis and, 559
Isotretinoin therapy
staphylococcal infections and, 455
Isotricha spp.
hydrogenosomes of, 477
Ivanovski, Dimitri, 746
Ixodes ricinus
Colorado tick fever virus and, 51
Ixodes sculptus
Colorado tick fever and, 59
Ixodes spinipalpus
Colorado tick fever and, 59
Ixodes ventalloi
Colorado tick fever virus and, 51

J

Jacob, Francois, 749-50
Joubert, Jules, 746

K

Kalz, Gertrude, 5
Kanamycin

Aeromonas hydrophila and, 413
Streptomyces fradiae and, 555
Kellenberger, Edward, 12, 29
Keratoconjunctivitis
Shigella kcpA locus and, 142
N-β-Ketocaproylhomoserine lactone
Vibrio fischeri bioluminescence and, 167
Ketoconazole
Saccharomyces cerevisiae and, 537
Trichophyton rubrum and, 537
Kieny, Marie-Paule, 753
Kinetoplast DNA
properties of, 340-44
replication of, 344-54
Kist, Marion, 19
Kjeldgaard, Niels, 748
Klebsiella aerogenes
nitrate reductase of, 234
Klebsiella pneumoniae
porins of
PhoE, 382
Klebsiella spp.
folliculitis and, 458
Koval, Susan, 19
Krebs cycle
protein phosphorylation and, 113
Krugman, Saul, 757

L

Lactobacillus casei
phosphoprotein phosphatases of, 111
protein kinases of, 109
Laigret, J., 755, 755
Lampropedia hyalina
cell wall fragments of
hexagonal arrays of, 18
double S-layer of, 20
Landsteiner, Karl, 747
Lecithinase
Aeromonas spp. and, 410
Lecocq, Jean-Pierre, 753
Lectins
bacterial adherence to skin and, 450
Legionella pneumophila
complement system and, 221
Legionnaires' disease, 221
Leishmania donovani
complement system and, 215-18, 220
Leishmania major
complement system and, 217, 220
Leishmania mexicana
complement system and, 217-18
Leishmania spp.
kinetoplast DNA of, 339
kinetoplast network structure in, 340
Leishmania tarentolae
kinetoplast DNA network
maxicircles of, 343
replication of, 353
kinetoplast DNA network
minicircles of, 341-42
Lentiviruses, 609-10
Lepine, Pierre, 756, 759
Leptospirosis, 4
Lepus californicus
Colorado tick fever-like virus and, 51
Leucine
tylactone biosynthesis and, 559
Leucinopine
Agrobacterium tumefaciens T-DNA and, 592
Leukemia
Aeromonas sepsis and, 405, 408-9
Leukocytes
Colorado tick fever virus and, 53-54
Leukotrienes
common cold and, 42
Levaditi, Constantin, 747
Levanase
Bacillus subtilis 168 and, 72
Levansucrase
Bacillus subtilis 168 and, 72-73
Levy, Jay, 752
Lichenases
Bacillus spp. and, 80
Lignin
anaerobic degradation of, 311-12
Lincomycin
Streptomyces griseofuscus and, 565
Lipase
Aeromonas spp. and, 410
Lipids
gram-negative bacteria outer membrane and, 361
Lipoamide dehydrogenase
bacterial mercury resistance and, 729
Lipopolysaccharide
Agrobacterium tumefaciens attachment and, 579
complement system and, 208-9
gram-negative bacteria outer membrane and, 362
Shigella virulence and, 140-42
Loeffler, Friedrich, 746
Lophotrichous bacteria
polar membranes of, 26
Luciferases
bioluminescence reaction and, 155
Luria, S. E., 10, 25, 748
Lwoff, André, 748, 750
Lyme disease, 56
Lymphadenopathy-associated virus, 752-53
Lysogeny
early studies of, 748-49
Lysotaphin
staphylococci and, 443
Lyssaviruses, 666

M

Macaques
simian immunodeficiency viruses and, 612-13, 617-18
Macrocin
methylation of
tylosin biosynthesis and, 563-64
Streptomyces fradiae
fermentation and, 559-61
Streptomyces fradiae mutants and, 563
Macrocin *O*-methyltransferase
Streptomyces fradiae and, 561-62
Mafenide acetate
Aspergillus wound infections and, 524-25
Malaria, 50
Malassezia furfur
catheter-associated infection and, 536-37
Malignancy
Aeromonas septicemia and, 409
Maltopentaose
Escherichia coli LamB-containing membrane and, 374-79
Mangabeys
simian immunodeficiency viruses and, 614, 619
Mannitol
metabolism in *Bacillus subtilis*, 69-70
Marasmus
Aeromonas septicemia and, 408
Mason-Pfizer monkey virus, 609
Mastitis
Staphylococcus aureus and, 455

Maupas, Philippe, 757
Maurin, Jacques, 750
Maxicircles
  kinetoplast DNA, 339
    properties of, 343
Mayall, Brian, 16
Mecillinam
  Aeromonas hydrophila and, 413
Medications
  normal flora of skin and, 449
Meningitis
  Acinetobacter spp. and, 458
  Aeromonas spp. and, 405-6
  Meningococcus spp. and, 2
  Micrococcus luteus and, 454
Mercury resistance
  bacteria and, 725-35
Meselson, Mat, 749
Mesosomes
  formation of, 17-18
Metal shadowing
  bacterial cytology and, 13, 18
Metchnikoff, Elie, 746-47, 758
Methanobacterium spp.
  haloaromatic degradation and, 266
Methanosarcina barkeri
  anaerobic fermentative degradation by, 301
Methanospirillum hungatei
  haloaromatic degradation and, 266
Methanothrix soehngenii
  anaerobic fermentative degradation by, 301
Methionine
  tylactone biosynthesis and, 559
Methylmalonyl-CoA
  tylactone biosynthesis and, 559
Methyl methanesulfonate
  Streptomyces fradiae mutagenesis and, 549
N-Methyl-*N*'-nitro-*N*-nitrosoguanide
  Streptomyces fradiae mutagenesis and, 549-50
Metronidazole
  anaerobic protozoa and, 476
Mezlocillin
  Aeromonas hydrophila and, 413
Michel, Marie-Louise, 758
Micrococcus brevis
  protein phosphorylation in, 103
Micrococcus kristinae
  skin colonization by, 443
Micrococcus luteus
  pathogenicity of, 454
  skin colonization by, 443
Micrococcus lylae
  skin colonization by, 443
Micrococcus sedentarius
  pitted keratolysis and, 456
Micrococcus spp.
  haloaromatic degradation and, 268-69
  pathogenicity of, 454
Micrococcus varians
  skin colonization by, 443
Micromonospora spp.
  transformation of, 569
Miles, A. A., 3
Mima spp.
  skin colonization by, 445
Minicircles
  kinetoplast DNA, 339
    properties of, 341-43
Mitomycin C
  Streptomyces fradiae mutants and, 549
Mitozoa, 480
Modular evolution, 674-75
Molybdenum
  nitrate reductases and, 233
Moment, Gairdner, 4
Monocercomonas spp.
  hydrogenosomes of, 477
  pyruvate:ferredoxin oxidoreductase of, 470
Monoclonal antibodies
  bacterial coaggregation and, 644-46
Monocots
  Agrobacterium tumor induction and, 595-96
Monod, Jacques, 749
Monohydroxybenzoates
  fermentative degradation of, 302
Monosaccharides
  catabolism in *Bacillus subtilis*, 66-77
Montagnier, Luc, 751-53
Montagnon, Bernard, 755
Moraxella spp.
  haloaromatic degradation and, 265
Morbilliviruses, 666
Mouse encephalitis virus, 751
Mouse mammary tumor virus, 609
Moxalactam
  Aeromonas hydrophila and, 413
MPIK3030
  nodD genes of, 426
Mucormycosis, 527-28
Mucor spp.
  nosocomial infection and, 527
Murine leukemia viruses
  assembly of, 501-4
Murray E. G. D., 1-3
Mutagenesis
  Streptomyces fradiae and, 548-50, 562-64
Mycaminose
  tylactone conversion to tylosin and, 563
Mycetoma
  Pseudallescheria boydii and, 529
Mycobacterium scrofulaceum
  copper resistance in, 735-36
Mycobacterium tuberculosis
  complement system and, 221
Mycoflora
  skin colonization by, 445
Myocarditis
  Colorado tick fever and, 53
Myrvik, Quentin, 11
Myxococcus xanthus
  fruiting-body formation by protein phosphorylation and, 116
Myxomatosis, 746

N

Nafcillin
  Aeromonas hydrophila endocarditis and, 407
Nairoviruses, 668
Nedocromil
  rhinovirus cold symptoms and, 42
Neisseria gonorrhoeae
  complement system and, 209, 216, 218
  outer membrane of
    phospholipids in, 361
  porins of, 363
Neisseria meningitidis
  complement system and, 210
Neocallimastix patriciarum
  hydrogenosomes of, 477
Neomycin
  normal flora of skin and, 449
Neonates
  normal flora of skin of, 447-48
Nepoviruses, 664-65
Nermut, M. V., 19
Neurospora qa-lf activator genes for
  baculovirus expression vectors and, 191-92
Nicolle, Charles, 747, 755
Nicotiana glutinosa
  auxin/cytokinin autonomy in, 595
Nitrate reductases
  denitrification and, 232-37
Nitric oxide reductases
  denitrification and, 243-46

Nitrite reductases
denitrification and, 237-42
Nitrobacter spp.
membranes of, 17
Nitrofuran
staphylococci and, 443
Nitrofurantoin
Aeromonas hydrophila and, 413
5-Nitroimidazole
anaerobic protozoa and, 466, 476
4-Nitroquinoline-1-oxide
Streptomyces fradiae mutagenesis and, 549
Nitrosocystis spp.
membranes of, 17
Nitrosoguanidine
Streptomyces fradiae mutagenesis and, 562
Nitrosomonas spp.
membranes of, 17
Nitrous oxide reductases
denitrification and, 249-53
Nocard, Edmond, 746
Nocardia spp.
haloaromatic degradation and, 268
Nopaline
Agrobacterium tumefaciens T-DNA and, 592
Nosocomial infections
Acinetobacter calcoaceticus and, 457
Aspergillus spp. and, 519-27
fungal, 517-39
Nuclear membranes
virus assembly at, 504-6
Nuclear polyhedrosis viruses
infectious forms of, 179-80
Nucleoids
mesosomes and, 18

O

Octopine
Agrobacterium tumefaciens T-DNA and, 592
Oligomerization
baculovirus-produced proteins and, 194
vesicular stomatitis virus G protein and, 501
Oligosaccharides
gram-negative bacteria outer membrane and, 361
Onchocerca spp.
enzymes of, 704
microfilariae of
immunity to, 699
Onchocerca volvulus
filariasis and, 686
Onchocerciasis, 686
immunity to, 687-88
immunopathology and, 689-90
Oncogenes
T-DNA, 591-92
Oncoviruses
type B, 609
type C, 608-9
type D, 609
Onycholysis
Candida infection and, 459
Opine genes
T-DNA encoding, 592
Oral bacteria
coaggregation of, 627-49
assay procedures for, 629-30
factors affecting, 630-31
primary colonizers and, 631-34
principles of, 648
surface components mediating, 642-48
fimbriae of, 642-46
Orbiviruses, 669
Colorado tick fever and, 50
Ordal, Erling, 10
Ornithodoros savignyi
Colorado tick fever and, 59
Orthomyxoviruses, 667-68
assembly of, 490
plasma membrane and, 497-99
nonglycosylated matrix protein of, 490
Otobius lagophilus
Colorado tick fever and, 59
Oxyhyponitrite
N-N bond formation and, 246-48

P

Paecilomyces lilacinus
nosocomial infection and, 529
Paecilomyces variotii
nosocomial infection and, 529
Palacios, R., 754
Palade, G. E., 14
Papillomatosis
Pityrosporum spp. and, 459
Papillomaviruses, 751
Paracoccus denitrificans
benzoate metabolism by, 296
nitrate reductase of, 234-36
nitric oxide reductase of, 243-46
nitrite reductase of, 240-41
nitrous oxide reductase of, 250-52
porins of, 363
Paracoccus halodenitrificans
nitric oxide reductase of, 245-46
nitrite reductase of, 240-42
Paracoccus spp.
nitrite reductases of, 240-41
Parainfluenza virus HA neuraminidase
genes for
baculovirus expression vectors and, 191-92
Paramyxoviruses, 666-67
assembly of, 490
HN protein of, 668
nonglycosylated matrix protein of, 490
Paronychia
Candida infection and, 459
Pasteur, Louis, 746, 754, 759
Pasteur Institute, 745-59
PCBs
See Polychlorinated biphenyls
Pearce, R. H., 9
Pelobacter acidigallici
anaerobic fermentative degradation by, 301
Peltier, M., 755
Penicillin
staphylococcal cell walls and, 16
Penicillin resistance
Brevibacterium spp. and, 444
Peptidoglycan
Escherichia coli cell wall and, 17
gram-negative bacteria outer membrane and, 360
Peptococcus saccharolyticus
skin colonization by, 443
Peptostreptococcus spp.
adherence to teeth, 637
coaggregation of, 635
Pericarditis
Colorado tick fever and, 53
Periodontal disease, 637-38
pathogens causing, 638
Peritoneal dialysis
fungal peritonitis and, 535
Peritonitis
Aeromonas spp. and, 404-5, 407
Aspergillus spp. and, 525
Candida spp. and, 535
Perognathus parvus
Colorado tick fever and, 57
Pesticides
baculovirus, 188
Pestiviruses, 663
Phaeohyphomycosis, 529-30
Phage T7
Escherichia coli infection by
protein phosphorylation and, 115

Phagocytosis
Shigella entry into HeLa cells and, 136
Phanerochaete chrysosporium
lignin degradation by, 311
Phenol
methanogenic conversion of, 304-5
Phenolic compounds
Agrobacterium vir gene expression and, 585
metabolism of
anaerobic, 298-99
Phenylalanine
tylactone biosynthesis and, 559
Phleboviruses, 668
Phlebovirus N protein
genes for
baculovirus expression vectors and, 191-92
Phloroglucinol
anaerobic metabolism of, 295
fermentative degradation of, 302
Phosphatidylethanolamine
gram-negative bacteria outer membrane and, 361
Phospholipids
gram-negative bacteria outer membrane and, 361
Phosphoprotein phosphatases
prokaryotic, 111
Phosphoproteins
bacterial, 100-1
identification of, 101-4
Phosphorylation
baculovirus-produced proteins and, 194
Phosphotransferase systems
Bacillus subtilis, 68-69
Escherichia coli, 103
Phosphotyrosine
bacterial, 106
Photobacterium leiognathi
luciferase of, 155
lux genes of, 162-65
Photobacterium phosphoreum
acyl-transferase of, 158-59
bioluminescence in
fatty acid turnover and, 170
induction of, 168
fatty acid reductase complex in, 160
fatty acid reductase polypeptides in, 161
luciferase of, 155
lux genes of, 162-65
tetradecanal of, 154
Photobacterium spp.
fatty acid reductase activity in, 160
luminescence systems of, 153
Photosynthesis
bacterial
protein phosphorylation and, 115-16
Phytophthora megasperma f. sp. *glycinea*
heptaglucan elicitor of, 431
Phytoreoviruses, 669
Picornaviruses
amino acid sequence homology in, 671
capsid proteins of, 672
recombination in, 673
RNA viruses and, 664-65
sharing of functional domains by, 675
Piperacillin
Aeromonas hydrophila and, 413
Pitted keratolysis
Micrococcus sedentarius and, 456
Pityrosporum orbiculare
catheter-associated infection and, 536-37
pathogenicity of, 458
skin colonization by, 445
age and, 447
tinea versicolor and, 458
Pityrosporum ovale
skin colonization by, 445
Pityrosporum spp.
pathogenicity of, 458-59
sebum production and, 447
selective adherence of, 450-51
skin colonization by, 445
ultraviolet light and, 449
Plant pathogens
avirulence genes and, 429-33
host range determinants of, 421-35
Plants
Agrobacterium infection of, 575-97
Plant symbionts
host range determinants of, 421-35
Plant viruses, 659
avirulence genes and, 430-31
capsid proteins of, 672
Plant wounding
Agrobacterium tumor induction and, 582-84
Plasma membrane
virus assembly at, 496-504
Plasmid DNA
transduction of
Streptomyces fradiae and, 556-58
Plasmids
anaerobic benzoate catabolism and, 297
heavy metal resistances and, 717-38
rRNA gene transfer and, 23
symbiosis
Rhizobium spp. and, 424-25
transplacement
baculoviruses and, 186-88
virulence
Shigella spp. and, 130-31
Plasmodium falciparum
complement system and, 220
Platelets
Colorado tick fever virus and, 54
Plesiomonas shigelloides, 399
antibiotic resistance of, 413
diarrheal disease and, 403-4
distribution of, 400-1
toxins of, 412
traveler's diarrhea and, 404
Plesiomonas spp., 395-413
choleric diarrhea and, 402-3
toxins of, 412
Pneumonia
Micrococcus luteus and, 454
Pneumoviruses, 666
Poliomyelitis
vaccine for, 756-57
Polioviruses
drift of, 677-78
recombination in, 673-74
replicative intermediate molecules of, 750-51
Ts characteristic in, 44
Poliovirus type 2
arildone and, 38
Pollution
dispersed, 264
point source, 264
Polychlorinated biphenyls (PCBs)
world production of, 263-64
Polyenes
Candida spp. and, 531
Polyhedrosis viruses
infectious forms of, 179-80
molecular biology of, 180-86
recombinant construction of, 186-88
vectors and hosts of, 188-91
Polyomavirus, 751
T antigens of
baculovirus expression vectors and, 191-92
Polysaccharides
catabolism in *Bacillus subtilis*, 78-87
Popovic, Mika, 752
Porin pores
reconstitution of, 367-72
structure of, 381-86

Porins
functions of, 372-81
in vivo, 365-66
gram-negative bacteria outer membrane and, 363-65
isolation and purification of, 366-67
Porphyrin
Corynebacterium minutissimum and, 444
Porter, J. Roger, 27
Porter, Keith R., 14, 29
Potyviruses, 664
Powassan virus encephalitis, 56
Pregnancy
Colorado tick fever and, 54
Prokaryotes
isocitrate dehydrogenase kinase/phosphatase of, 112
phosphoprotein phosphatases of, 111
phosphoproteins of, 100-1
identification of, 101-4
protein kinases of, 109-11
protein phosphorylation in, 97-117
biological role of, 112-16
See also Bacteria
Propionibacterium acnes
pathogenicity of, 457
skin colonization by, 444-45
race and, 448
retinoids and, 449
Propionibacterium avidum
skin colonization by, 445
Propionibacterium granulosum
pathogenicity of, 457
skin colonization by, 445
Propionibacterium spp.
coaggregation of, 635
pathogenicity of, 457
skin colonization by, 444-45
age and, 447
Propionyl-CoA
tylactone biosynthesis and, 559
Prosthetic cardiac valves
Candida infection of, 533
Protein kinases
prokaryotic, 109-11
Protein phosphorylation
prokaryotic, 97-117
biological role of, 112-16
phage infection and, 115
Proteins
gram-negative bacteria outer membrane and, 362-63
Proteolysis
baculovirus-produced proteins and, 192-93
Proteus mirabilis
nitrate reductase of molybdenum cofactor and, 233
porins of, 363
Proteus spp.
folliculitis and, 458
toe-web infections and, 458
Protoplasts
streptomycete, 551-54
Protoporphyrin IX
absorption of Congo red binding and, 144
Protozoa
See Anaerobic protozoa
Prunet, Paul, 757
Pseudallescheria boydii
nosocomial infection and, 529
Pseudallescheriasis, 529
Pseudomonads
nitrous oxide respiration in, 251
Pseudomonas aeruginosa
Agrobacterium tumefaciens tumor induction and, 578
antibiotic resistance of, 364
chromate resistance in, 722
complement system and, 212, 215, 217
nitrate reductase of, 234
nitric oxide reductase of, 243-46
nitrite reductase of, 240
outer membrane of
porin pores in, 370
protein P of, 372
porin P of, 380-81
porins of, 363-64
exclusion molecular weight of, 368
protein D1 of, 381
Pseudomonas alcaligenes
nitric oxide reductase of, 243
Pseudomonas ambigua
chromate resistance in, 722
Pseudomonas aureofaciens
nitric oxide reductase of, 243
nitrite reductase of, 239
Pseudomonas cepacia
haloaromatic degradation and, 271
Pseudomonas chlororaphis
nitric oxide reductase of, 243
Pseudomonas denitrificans
nitrate reductase of, 236
molybdenum cofactor and, 233
nitric oxide reductase of, 244
nitrous oxide reductase of, 251
Pseudomonas extorquens
methanol-degrading, 282
Pseudomonas fluorescens
chromate resistance in, 722
nitric oxide reductase of, 243
phosphotyrosine in, 106
Pseudomonas perfectomarina
anaerobic growth of nitrous oxide-dependent, 249
nitric oxide reductase of, 244-46
nitrite reductase of, 241-42
nitrous oxide reductase of, 250-51, 253
Pseudomonas putida
phenol hydroxylase of, 272
Pseudomonas savastanoi
Agrobacterium tumefaciens tumor induction and, 578
Pseudomonas solanacearum
pathogenicity genes of, 428-29
Pseudomonas spp.
anthranilate metabolism by, 297-98
chromate resistance in, 722-23
haloaromatic degradation and, 265, 268-69
nitrite reductases of, 240-41
phenolic compound degradation by, 298-99
toe-web infections and, 458
Pseudomonas stutzeri
nitric oxide reductase of, 243-44
Pseudomonas syringae
copper resistance in, 735-36
Pseudomonas syringae pv. *glycinea*
avirulence gene of, 432
Pseudomonas syringae pv. *savastanoi*
plant growth hormone production by, 427
Pseudomonas testosteroni
haloaromatic degradation and, 272
Psoralen plus ultraviolet A (PUVA)
normal flora of skin and, 449
Psoriasis
Candida skin colonization and, 445
psoralen plus ultraviolet A and, 449
Staphylococcus skin colonization and, 443
Pyridine nucleotides
anaerobic protozoa and, 473
Pyrogallol
fermentative degradation of, 302

Pyruvate
metabolism of
anaerobic protozoa and, 469-72
hydrogenosomes and, 478
Pyruvate:ferredoxin oxidoreductase
pyruvate metabolism and, 469-70

R

R61837
rhinovirus colds and, 40-41
Rabies, 746
vaccine for, 754-55
Rabies virus, 751
Race
normal flora of skin and, 448
Race, R. R., 5
Reculard, Pierre, 755
Red blood cells
See Erythrocytes
Reed, Walter, 747
Relomycin
Streptomyces fradiae fermentation and, 559-61
Remlinger, Paul, 747
Reoviruses, 669
Resorcinol
anaerobic fermentative degradation of, 301
Respiration
anaerobic protozoa and, 474-75
Respiratory tract infections
Acinetobacter spp. and, 458
central nervous system and, 42-43
Restriction endonucleases
Streptomyces fradiae and, 548, 555-56
13-*cis*-Retinoic acid
normal flora of skin and, 449
Retinoids
normal flora of skin and, 449
Retroviruses
assembly of, 490
plasma membrane and, 501-4
subclassification of, 608-10
Rhabdoviruses, 666-67
assembly of, 490
plasma membrane and, 499-501
M protein of, 668
nonglycosylated matrix protein of, 490
Rhinitis
See Common cold
Rhinoviruses
antirhinovirus drugs and, 36-41
common cold and, 35-36
immunity and, 41-43
optimum growth temperature of, 43
Rhizobium-legume symbiosis, 424-27
Rhizobium leguminosarum
mutants of
nodD regulation in, 425
nodulation of peas by EPS gene and, 426-27
Rhizobium meliloti
Agrobacterium tumefaciens tumor induction and, 578
chvB loci in, 581
nodD genes of, 426
Rhizobium phaseoli
nodulation of beans by extracellular polysaccharide gene and, 426-27
Rhizobium spp.
host range determinants of, 425-27
symbiosis plasmids of, 424-25
Rhizomucor spp.
nosocomial infection and, 527
Rhizopus spp.
nosocomial infection and, 527
Rhodanine
echovirus 12 and, 37
Rhodobacter capsulatus
nitrate reductase of
molybdenum cofactor and, 233
porins of, 363
Rhodococcus chlorophenolicus
haloaromatic degradation and, 270
Rhodomicrobium vannielii
nuclear division in, 11
phosphopolypeptides of, 104
phosphotyrosine in, 106
Rhodopseudomonas capsulata
nitrate reductase of, 236-37
Rhodopseudomonas gelatinosa
phloroglucinol metabolism by, 295
Rhodopseudomonas palustris
benzoate metabolism by, 290-95
nitrate reductase of, 236
Rhodopseudomonas sphaeroides
nitrate reductase of, 236
nitrous oxide reductase of, 252
Rhodospirillaceae
nitrate reductases of, 236-37
nitrous oxide reductases of, 252-53
Rhodospirillum capsulata
nitrous oxide reductase of, 252
Rhodospirillum palustris
nitrous oxide reductase of, 252
Rhodospirillum rubrum
nitrous oxide reductase of, 252
phosphotyrosine in, 106
photosynthesis by
protein phosphorylation and, 116
Rhodotorula rubra
peritoneal dialysis and, 535
Riboflavin phosphate
bioluminescence reaction and, 154
Ribosomal RNA
See rRNA
Rickettsia rickettsii
tick transmission of, 59
Rimantadine
antiviral effects of, 37
RNA cistrons
bacterial taxonomy and, 23
RNA viruses
alphavirus-like, 659-64
amino acid sequence homology in, 671-72
capsid proteins of, 672
double-stranded, 669-70
evolution of, 657-79
negative-stranded, 666-69
picornavirus-like, 664-65
rate of divergence of, 675-78
recombination in, 673-75
superfamilies of, 659-71
Robinow, Carl, 9-10, 13-15, 21, 25
Rocky Mountain spotted fever, 50, 53, 56
Rossiter, R. J., 7
Rotaviruses, 669
assembly of
endoplasmic reticulum and, 491-94
Rotavirus VP6
genes for
baculovirus expression vectors and, 191-92
Rothia spp.
coaggregation of, 634
Roux, Emile, 746-47
Rouzioux, Christine, 752
Rozenbaum, Willy, 752
rRNA
bacterial taxonomy and, 23
rRNA genes
heterologous transfer of plasmid vectors and, 23
Rubella virus, 663

S

Saccharomyces cerevisiae
Bacillus subtilis 168 lichenase gene and, 82
nosocomial infection and, 537
St. Louis encephalitis, 56
Salk, Jonas, 756, 759
Salmonella enteritidis
complement system and, 211
Salmonella montevideo
complement system and, 211
Salmonella typhimurium
complement system and, 211
enzyme III of
protein phosphorylation and, 116
outer membrane of
phosphatidylethanolamine in, 361
proteins in, 362
phosphoprotein phosphatases of, 111
phosphoproteins of, 100-1
phosphotyrosine of, 106
porins of, 363-64
exclusion molecular weight of, 368
protein HPr of
amino acid sequences of, 107
protein kinases of, 109
inhibitors of, 110
Sanarelli, Guiseppe, 746
Schistosoma mansoni
complement system and, 209, 211
Sciurus griseus
Colorado tick fever-like virus and, 51
Seborrheic dermatitis
Pityrosporum spp. and, 459
Selenomonas spp.
coaggregation of, 635
Sellards, A., 755
Sendai virus
HN protein of, 668
Septic arthritis
Micrococcus luteus and, 454
Sereny test
Shigella virulence and, 129
Serratia spp.
complement system and, 212
Serum amyloid A (SAA)
synthesis of
interleukin 1 and, 42
Sex
normal flora of skin and, 448
Shiga toxin, 128, 138-40
Shigella boydii, 127
aerobactin system of, 142-43
Shigella dysenteriae, 127
aerobactin system of, 142-43
intracellular multiplication of, 137
Shiga toxin of, 139-40
Shigella dysenteriae type 1
enterotoxins of, 411
Shigella flexneri, 127
aerobactin system of, 142-43
Congo red binding ability of, 143-44
entry into cells, 136
intracellular multiplication of, 137
killing of host cells by, 137-38
Shiga-like toxin of, 128, 138
virulence of
genes causing, 129-30
virulence plasmids of, 130-36
adjacent cell reinfection and, 138
Shigella sonnei, 127, 399
aerobactin system of, 142-43
Shiga-like toxin of, 128, 138
virulence plasmids of, 130-36
Shigella spp.
aerobactin system of, 142-43
Congo red binding ability of, 143-44
interactions with epithelial cells, 130-36
invasive phenotypes of
growth temperature and, 131-32
kcpA locus of
keratoconjunctivitis and, 142
virulence of, 127-45
genes causing, 129-30
lipopolysaccharide and, 140-42
virulence plasmids of, 130-36
Shigellosis
dysentery and, 128
Shiga toxin and, 138
Sickle cell anemia
Aeromonas meningitis and, 406
Sigma virus, 667
Silver resistance
bacteria and, 736-37
Simian immunodeficiency viruses, 607-22
animal studies of, 620-21
isolation and properties of, 612-15
nucleotides sequences of, 615-17
origins of, 622
pathogenesis of, 622
prevalence and diversity of, 617-19
treatment and prevention of infection, 622
Simian rotavirus SA11
rotavirus morphogenesis and, 492-93
Siminovitch, Louis, 748
Sinapinic acid
Agrobacterium vir gene expression and, 585
Sindbis-like viruses
amino acid sequence homology in, 671
recombination in, 674
Sindbis virus, 659-62
drift of, 678
Skerman, V. B. D., 23
Skin
microbial ecology of, 441-60
natural resistance of, 451-54
normal flora of
factors modifying, 446-51
pathogenicity of, 454-59
Skin infections
Aeromonas spp. and, 405
Smith, Frederick, 3, 5
Smith, H. H., 756
Smith, Homer, 4
Sneath, P. H. A., 23
Snow, C. P., 4
Soaps
normal flora of skin and, 448-49
Soft tissue infections
Aeromonas spp. and, 405
Sonigo, Pierre, 753
Southern bean mosaic virus
capsid proteins of, 672
Spiramycin resistance genes
Streptomyces ambofaciens and, 570
Spirillum spp.
phenolic compound degradation by, 298-99
Spirochetes
periodontal disease and, 638
Spooner, E. T. C., 3-4
Stanier, Roger Y., 15, 21-22
Staphylococcal scalded skin syndrome
Staphylococcus aureus and, 455
Staphylococccus epidermidis
haloaromatic degradation and, 268
Staphylococcus aureus
binding to fibronectin, 450
cadmium resistance in, 723-24
complement system and, 212
heavy metal resistance in, 718-21
histidine-containing phosphocarrier protein of, 68
infections caused by, 455

neonatal infection caused by, 448
phosphoprotein phosphatases of, 111
protein kinases of, 109
protein phosphorylation in, 103
skin colonization by, 443
competitive inhibition of, 453
race and, 448
retinoids and, 449
Staphylococcus capitis
skin colonization by, 443
Staphylococcus carnosus
protein kinases of, 109
Staphylococcus epidermidis
neonates and, 447-48
pathogenicity of, 454-55
skin colonization by, 443
Staphylococcus haemolyticus
pathogenicity of, 454
skin colonization by, 443
Staphylococcus hominis
skin colonization by, 443
Staphylococcus saccharolyticus
skin colonization by, 443
Staphylococcus saprophyticus
pathogenicity of, 455
skin colonization by, 443
Staphylococcus spp.
anaerobic acid production by, 443
antibiotic resistance in, 570
cell walls of
penicillin poisoning and, 16
pathogenicity of, 454-55
skin colonization by, 442-43
teichoic acids of, 450
Staphylococcus warneri
skin colonization by, 443
Steed-Glaister, Pamela, 17, 19
Stephenson, Marjory, 5
Steroids
normal flora of skin and, 449
Stewart, Murray, 19
Stowers, John, 5
Stratum corneum
bacterial invasion and, 451
Streeck, Rolf, 758
Streptococcus anginosus constellatus
coaggregation of, 631
Streptococcus cricetus
coaggregation of, 634
Streptococcus faecalis
cadmium resistance in, 725
gluconate enzyme III of, 114
histidine-containing phosphocarrier protein of, 68
protein HPr of, 107
phosphorylation sites of, 107
protein kinases of, 109-10
Streptococcus lactis
chromate resistance in, 722
phosphoprotein phosphatases of, 111
protein kinases of, 109
Streptococcus mitis
coaggregation of, 631-32
Streptococcus morbillorum
coaggregation of, 631-34, 641
Streptococcus mutans
coaggregation of, 628, 631
Streptococcus pneumoniae
complement system and, 210-11
Streptococcus pyogenes
group A
mucoid, 9
phosphoprotein phosphatases of, 111
protein HPr of, 107
protein kinases of, 109-10
Streptococcus salivarius
dental plaque and, 641
fimbriae of, 643-44
protein phosphorylation in, 103
Streptococcus sanguis
adherence to teeth, 637
coaggregation-inhibiting oligosaccharide of, 647
coaggregation of, 628, 631-34, 636, 641, 644
dental plaque and, 641
Streptococcus spp.
fimbriae of, 643-44
group A
complement system and, 212
oral, 641
protein phosphorylation in, 103
skin colonization by, 442-43
teichoic acids of, 450
viridans
inability to adhere to skin, 450
Streptomyces ambofaciens
spiramycin resistance gene of, 570
Streptomyces azureus
thiostrepton resistance gene of, 552
Streptomyces coelicolor
conjugation in, 550
Streptomyces fradiae, 547-71
DNA repair in, 549-50
mutagenesis in, 562-64
mechanisms of, 548-50
mutants of, 549
plasmid DNA transduction in, 556-58
protoplast fusion and, 551-52
protoplast transformation and, 552-54
recombination in, 550-58
restriction-deficient cloning hosts for, 555-56
tylosin biosynthesis in, 558-58
tylosin biosynthetic genes of
cloning of, 566-68
tylosin-defective strain of
conjugation and, 554-55
tylosin resistance genes of
cloning of, 564-66
Streptomyces griseofuscus
antibiotic resistance in, 565-66
Streptomyces lividans
antibiotic resistance in, 565-66
mercury resistance determinant in, 733
tylosin resistance gene cloning and, 565
Streptomyces rimosus
tylosin biosynthesis in, 562
Streptomyces thermotolerans
carbomycin resistance genes of, 570
Streptomycin
Plesiomonas shigelloides and, 413
Succinamopine
Agrobacterium tumefaciens T-DNA and, 592
Sucrase
Bacillus subtilis 168 and, 72-73
Sucrose
metabolism in *Bacillus subtilis*, 72-77
Sulfide
nitrous oxide reduction and, 249
Superoxide dismutase
microfilarial, 704
SV40
T antigens of
baculovirus expression vectors and, 191-92
Symbiosis
Rhizobium-legume, 424-27
Synechococcus strain 6301
photosynthesis by
protein phosphorylation and, 116
Syntrophococcus sucromutans
substituted monobenzenoids and, 302

T

Taxonomy
bacterial, 21-25

Teichoic acids
bacterial adherence to skin and, 450
Tellurium resistance
bacteria and, 721-22
Tetracycline
Aeromonas hydrophila and, 413
Colorado tick fever and, 54
Tetradecanal
bioluminescent bacteria and, 154
Thalassemia
Aeromonas septicemia and, 408
Theiler, Max, 756
Thermoactinomyces spp.
spore germination in
amino acid generation and, 319-20
Thermoactinomyces thalpophilus
small, acid-soluble spore proteins of, 321
genes cloned for, 323-26
Thiobacillus denitrificans
nitrite reductase of, 240-41
Thiostrepton resistance gene
Streptomyces azureus and, 552
Thrombocytopenia
Aeromonas septicemia and, 408
Colorado tick fever and, 53
Thrombophlebitis
Candida spp. and, 532-33
Thylakoid membranes
cyanobacterial, 18
Ticarcillin
Aeromonas hydrophila and, 413
Ticks
Colorado tick fever and, 50, 56-60
Tinea versicolor, 458
Tiollais, Pierre, 753, 757-58
Tobacco mosaic virus, 659-63, 746, 750
avirulence genes and, 430-31
sharing of functional domains by, 675
Tobacco rattle virus, 659-62
sharing of functional domains by, 675
Tobamoviruses, 659
Tobramycin
Aeromonas hydrophila and, 413
Tobraviruses, 659
Toe-web infections
gram-negative, 458
Togaviruses, 663
Toluene
anaerobic degradation of, 308
Tomato black ring virus
sharing of functional domains by, 675
Tomato bushy stunt virus
capsid proteins of, 672
Topoisomerases
kinetoplast DNA replication and, 353-54
Tournier, Paul, 750
Toxic shock syndrome
Staphylococcus aureus and, 455
Toxoplasma gondii
complement system and, 215
Transplacement plasmids
baculoviruses and, 186-88
Traveler's diarrhea
doxycycline and, 413
Plesiomonas shigelloides and, 404
Treponema pallidum
complement system and, 210
Treponema vicentii
complement system and, 210
1,2,4-Trichlorobenzene
microbial degradation of, 267
2,4,5-Trichlorophenoxyacetic acid
microbial degradation of, 267, 281
Trichomonas foetus
acetate formation in, 471
adenylate kinase of, 478
catalase of, 473
ferredoxins of, 472
glycolysis in, 469
hydrogenosomes of, 473, 477
pyruvate:ferredoxin oxidoreductase of, 470
respiratory system of, 475
Trichomonas vaginalis
adenylate kinase of, 478
ferredoxins of, 472
glycolysis in, 469
hydrogenosomes of, 473, 477
hydrogen production in, 474
pyruvate:ferredoxin oxidoreductase of, 470
Trichomycosis
Corynebacterium tenuis and, 456
Trichophyton rubrum
dermatophytosis and, 537
Trichosporon beigelii
trichosporonosis and, 536
Trichosporonosis, 536
Trimethoprim-sulfamethoxazole
Aeromonas hydrophila and, 413
Aeromonas osteomyelitis and, 406
3,4,5-Trimethoxybenzoate
fermentative degradation of, 302
Tropical pulmonary eosinophilia, 686
Truant, J. P., 15
Trypanosoma brucei
complement system and, 209
kinetoplast DNA network
maxicircles of, 343
replication of, 353
kinetoplast DNA network
minicircles of, 341
topoisomerases of, 354
Trypanosoma brucei gambiense
complement system and, 215
Trypanosoma cruzi
complement system and, 209, 212-14, 221
kinetoplast DNA network
minicircles of, 342
topoisomerases of, 353-54
Trypanosoma equiperdum
kinetoplast DNA network
minicircles of, 341
replication of, 349-51
Trypanosoma lewisi
complement system and, 215
kinetoplast DNA network
minicircles of, 342
Trypanosoma spp.
kinetoplast DNA of, 339
kinetoplast DNA replication in, 339-54
enzymology of, 353-54
kinetoplast network structure in, 340
Tryptophan
small, acid-soluble spore proteins and, 322
Tuberculin purified protein derivative
blastogenic response to, 688
Tunicamycin
bovine rotavirus and, 493
herpes simplex virus glycoproteins and, 504
N-linked glycosylation and, 193
Turnip yellow mosaic virus
drift of, 677
Twort, Frederick, 747
Tylactone
Streptomyces fradiae mutants and, 563
structure of, 559
Tylosin
biosynthesis of
Streptomyces fradiae and, 558-68
genes for
Streptomyces fradiae and, 554-55

structure of, 559
Tylosin biosynthetic genes
Streptomyces fradiae
cloning of, 566-68
Tylosin resistance genes
Streptomyces fradiae
cloning of, 564-66
Typhoid fever, 50
Typhus, 50, 56

U

Ultraviolet B
normal flora of skin and, 449
Ultraviolet light
Escherichia coli mutagenesis and, 550
normal flora of skin and, 449
Streptomyces fradiae mutagenesis and, 549-50
Uremia
zygomycosis and, 528
Urinary tract infections
Acinetobacter spp. and, 458
Aeromonas hydrophila and, 407
Staphylococcus spp. and, 455
Uukuviruses, 668

V

Vaccines
Colorado tick fever and, 54
hepatitis B, 757-58
influenza, 757
poliomyelitis, 756-57
rabies, 754-55
viral
research and development of, 754-58
yellow fever, 755-56
Valine
tylactone biosynthesis and, 559
Vancomycin
Corynebacterium spp. and, 444
van Heynigen, W. E., 5
Vanillin
Agrobacterium vir gene expression and, 585
van Niel, C. B., 21
Vascular catheter infection
Candida parapsilosis and, 531
Vascular catheters
nosocomial candidiasis and, 531-32
Veillonella alcalescens
coaggregation of, 643-44
Veillonella atypica
dental plaque and, 641
Veillonella dispar
dental plaque and, 641
Veillonella parvula
coaggregation of, 631
dental plaque and, 641
Veillonella spp.
adherence to teeth, 637
oral, 641-42
Vesicular stomatitis virus, 666-67
assembly of, 499-501
G protein of, 499-501
Vesiculoviruses, 666
Vibrio cholerae
enterotoxins of, 411
Vibrio fischeri
bioluminescence in autoinducer of, 167-68
fatty acid reductase polypeptides in, 161
luciferase of, 155
lux genes of, 162-65
yellow fluorescence protein of, 155
Vibrio harveyi
bioluminescence in aldehyde dehydrogenase and, 167
catabolite repression and, 168
fatty acid reductase polypeptides in, 161
luciferase of, 155
lux genes of, 162-65
tetradecanal of, 154
Vibrio spp.
luminescence systems of, 153
Viral vaccines
research and development of, 754-58
Virulence plasmids
Shigella spp. and, 130-31
Viruses
acquired immunodeficiency syndrome, 751-54
animal, 489-510
assembly of
endoplasmic reticulum and, 491-94
epithelial cells and, 506-9
inner nuclear membranes and, 504-6
plasma membrane and, 496-504
common cold and, 35-36
early discovery of, 746-47
early studies of, 750-51
maturation of
endoplasmic reticulum/Golgi apparatus and, 494-96
modular evolution of, 674-75
plant, 659
avirulence genes and, 430-31
capsid proteins of, 672
RNA
alphavirus-like, 659-64
amino acid sequence homology in, 671-72
capsid proteins of, 672
double-stranded, 669-70
evolution of, 657-79
negative-stranded, 666-69
picornavirus-like, 664-65
rate of divergence of, 675-78
recombination in, 673-75
superfamilies of, 659-71
simian immunodeficiency, 607-22
animal studies of, 620-21
isolation and properties of, 612-15
nucleotide sequences of, 615-17
origins of, 622
pathogenesis of, 622
prevalence and diversity of, 617-19
treatment and prevention of, 622
See also specific type
Visna virus, 753
Volk, Wesley, 11

W

Watson, Stanley, 17
Weidel, W., 19
Western equine encephalitis virus
recombination in, 674
Western equine encephalomyelitis, 56
Whitfield, G., 12
Williamson, G., 4
Wimmer, Eckard, 756
WIN 49321
poliovirus type 2 and, 38
WIN 51711
antiviral effects of, 38
Woese, Carl, 23
Wolinella recta
periodontal disease and, 638
Wollman, Elisabeth, 748
Wollman, Eugene, 748
Wolman, Leo, 5
Wound infections
Acinetobacter calcoaceticus and, 457
Aspergillus spp. and, 524-25
Staphylococcus aureus and, 455

Wuchereria bancrofti
lymphatic filariasis and, 686
Wyckoff, R. W. G., 14

X

Xanthomonas spp.
copper resistance in, 735-36
Xenobiotics
cometabolism and, 281
Xenorhabdus spp.
luminescence systems of, 153
Xylanases
Bacillus subtilis and, 78-80
Xylenes
anaerobic degradation of, 308
Xylohypha spp.
phaeohyphomycosis and, 529

Y

Yellow fever
vaccine for, 755-56
Yellow fever virus, 747
drift of, 677
Yersinia pestis
Congo red binding ability of, 143
Yersinia pseudotuberculosis
entry into cells, 136
Yudkin, John, 4

Z

Zygomycosis, 527-28